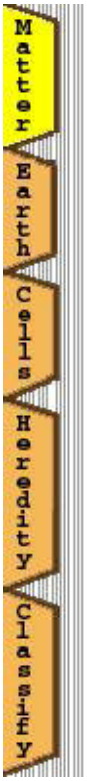
What's the matter? Activity



STANDARD 3200-01 Students will evaluate the particulate nature of matter.

OBJECTIVE 3200-0102 Compare motion of particles in a gas, 'liquid', and solid.

Intended Learning Outcomes:
1a. Make observations and measurements.

2e. Analyze data and draw warranted inferences.

3a. Maintain a sense of curiosity about natural phenomena.

5c. Understand science concepts and principles.

Background:
Know the definition of matter and the states of matter.

Summary:
Students will observe the mystery matter and identify the states of matter.

Materials:

- Cornstarch
- Water
- Stirrer -spoon, popsicle stick, etc
- Water dropper
- Container for mystery matter- beaker, plastic cup, wax paper, or paper plate

Teacher Preparation:

Mix together one box of cornstarch and water. Add enough water until it is the consistency of glue. One 16-oz box of cornstarch need about 1 1/2 cups of water.

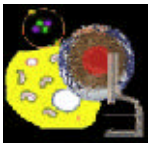
Student Procedure:

1. Each student or group of students will receive a container of mystery matter. Without touching the mystery matter, hypothesize what state of matter it is in?
2. Slowly stir the mystery matter. Record observations. If it does not have the consistency of glue, use the water dropper to add a few drops of water.
3. Tap the mystery matter with your stirrer. Record observations. Now as quickly as possible, try to jab your stirrer into the matter. What state of matter does the mystery matter appear?
4. Now, slowly try to divide the mystery matter into two groups. Record observations. What state of matter does the mystery matter appear?
5. Set one side of the stirrer on the surface of the mystery matter. Then quickly pick up the stirrer. Record observations.
6. Last, take a small amount of mystery matter into your hand. Roll it into a ball. Now open your hands. Try and cut the mystery matter with scissors. Record what happens to the matter.
7. Conclusions: Can you force a physical change in matter? What appeared to happen to the state of the mystery matter when it was in your hand? What happens when you apply pressure to the mystery matter? What seems contradictory? What was the most fascinating? What other tests did you perform?

Safety Concerns


Teachers and students, be sure to keep all Glass and Sharp instrument Safety Rules that are given by the teacher and in all general laboratory experiences.

See a 524KB quicktime movie of the mystery matter. This movie will open in a new browser window. When you finish watching the movie, close the window to continue in Sci-ber text.



Print this page in Adobe Acrobat Format 

Visit the Utah State 7th Grade Integrated Science Core Curriculum Page.
Updated June 14, 2000 by: Glen Westbroek

Science Home Page | Curriculum Home Page | Core Home Page | USOE Home Page